Report of the SAWG
July 1, 2003

Meeting of April 22-23, 2003
J.N. Bregman (Chair); W. Oegerle (Deputy Chair)

Main Issues:
  The Celestial Navigator System
  LAMBDA
  AISRP

LAMBDA

Very nice website from which data are easily avialable.

Specialized format for CMB data sets (HEALPix; not FITS format)

Concern about (1) ease of obtaining HEALPix software (subroutines have to be downloaded from Cern, etc.) (2) conversion to a FITS image would be nice to have.

Problems should be corrected as funds allow.

AISRP

Some past successes, but it did not rank highly in the Senior Review and it had it=s budget cut.

Some VO tools developed here, but not enough resources for the CNS initiative (even if all other programs were dropped).

Suffers from not having a traditional repository for its scholarly product (e.g., a journal).
If this issue were solved, it could be quite highly regarded.

Celestial Navigator System

Request by the SAWG to the ADEC to develop a limited (3 yr) NASA-only Virtual Observatory (VO) initiative that would support the primary goals of the SEUS and OS roadmaps.

Improve connectivity between the different archive centers (remove the barriers) and provide a uniform set of improved services.

Leverages from the NSF ITR project (many of the ADEC folks are part of that program), which has been involved with under the hood@ components.

Master Database and Master Name Resolver
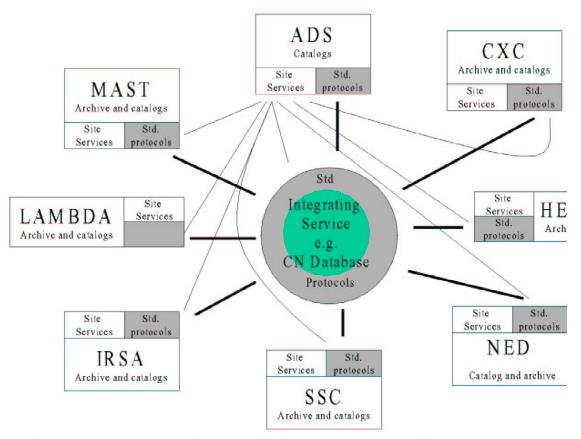   *merged and integrated database across all sites*

Cross-Archive Inventory Service
    will account for different resolution, footprints, etc.

Coordinated Source Extraction
    multi-wavelength source catalogs

Catalog Cross-Correlation Services
    offered now, but not across archive sites

Improved Tools
    SED generator and visualizer

Proposal for 3 yr at about 2 M$/yr to begin as soon as feasible (FY 04) in order to overlap with NSF program.

ADS
Catalogs

| Site Services | Std. protocols |

MAST
Archive and catalogs

| Site Services | Std. protocols |

CXC
Archive and catalogs

| Site Services | Std. protocols |

LAMBDA
Archive and catalogs

| | Site Services |

Std

Integrating Service e.g. CN Database

Protocols

| Site Services | |
| Std. protocols | |

HE
Arch

| Site Services | Std. protocols |

IRSA
Archive and catalogs

| Site Services | Std. protocols |

SSC
Archive and catalogs

| Site Services | Std. protocols |

NED

Catalog and archive

Communications flows within the Celestial Navigator

Schedule

	Year 1	Year 2	Year 3
	1 2 3 4 5 6 7 8 9 10 11 12	13 14 15 16 17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32 33 34 35 36

Cross Correlation

Task	Month
Prototype	2
Initial release	5
UIF v1	17
Release 2	19
UIF v2	20
Release 3	25
UIF v3	26
Integrated services	33

Catalog Interface

Task	Month
Initial specification	2
First implementations	3
Full specification, V1	5
Implementations of V1	7, 8, 15
Data Models Incorporated	17
Query protocols/Data tags	19
Interface review	20
V2 spec (if required by review)	23
First V2 implementations	25

Celestial Navigator Database

Task	Month
Cross–identify 2 million sources	1
Name resolvers 2MASS/USNO	
V1 release including data tags	1
Galaxy diameters	5
10 million sources	5
WFPC2 associatios $|b| > 85$	5
Name resolution for WFPC2	5
Photometry searches	5
Galaxy diameter searches	5
DBMS server	7
Mirroring tests	10
Galaxy distances (with search)	12
50 million sources	12
WFPC2 associatios $|b|>20$	12
Galaxy morphology (& searches)	17
100 million sources	17
WFPC2 $|b| > 15$	17
STScI mirror	19
Galaxy spectra (and searches)	23
150 million sources	23
WFPC2 $|b| > 10$	23
ADS Mirror	25
Galaxy attributes (hierarchy)	28

SED Discovery Tool

Task	Month
Enhanced demo tool	5
Prototype data model and file spec	5
SIAP+ definition	5
HST data extractor	5
Astrometry uncertainties	5
Photometric Calibrations	5
NED SED access	7
SIAP+ implementation	7
Simple regions	7
Interactive visualizer (v1)	11
Photometry upper limits	11
Web service	11
Data model implementation	15
Data selection support	15
Further HST instruments	15
Astrometry error bars	17
HEASARC catalog access	17
Background support	17
General regions	17
Greyshift, dereddening, data editing	17
SED generation/preview	
Remote DM support	23